

IES-5408DFT

2 10/100/1000T + 2 100/1000 SFP + 8 10/100TX L2* Industrial

Managed Ethernet Switch w/ Enhanced G.8032 Ring

- Enhanced G.8032 ring protection < 20ms for single ring. Supports auto mode, enhanced mode, train mode, multi-VLAN and basic mode; Enhanced G.8032 ring covers multicast packets; MSTP 16MSTI /RSTP; support MRP ring
- Miss-wiring avoidance & Node failure protection
- User friendly UI, including auto topology drawing; Complete CLI
- Support LACP link aggregation, IGMP v3/router port,
- DHCP server & DHCP Option82; DHCP Snooping; Port based DHCP distribution, Mac based DHCP server, QoS by VLAN, SSH v2/SSL, HTTPS, INGRESS/EGRESS ACL L2/L3, TACACS+**, QinQ
- Protocol based VLAN; IPv4 Subnet based VLAN
- Optional Environmental Monitoring** for temp., voltage and current (-M model)
- Wide range dual DC input from 18V~72V with galvanic isolation (-E model)
- USB port to backup, restore the configuration file and upgrade firmware
- EN50121-4/50121-5 verification

















Lantech IES-5408DFT is a high performance L2+ (Gigabit uplink) switch with 8 10/100TX + 2 10/100/1000T + 2 Dual Speed SFP which provides L2 wire speed and advanced security function for network aggregation deployment. It delivers ITU G.8032 enhanced ring recovery less than 20ms in single ring while also supports train ring, enhanced mode, multiple VLAN model with easy configuration. The comprehensive QoS, QoS by VLAN, advanced security including INGRESS/EGRESS ACL L2/L3, TACACS+**, SSH v2/SSL, Mac based DHCP server, DHCP Option 82, DHCP server, IGMPv1/v2/v3/router port, QinQ are supported and also required in large network. It also supports Cisco Discovery Protocol (CDP) for Ciscoworks to detect the switch info and show on L2 map topology.

Miss-wiring avoidance, Node failure protection, Loop protection,

The IES-5408DFT also embedded several features for stronger and reliable network protection in an easy and intuitive way. When the pre-set ring configuration failed or looped by misswiring, Lantech IES-5408DFT is able to alert with the LED indicator and disable ring automatically. Node failure protection ensures the switches in a ring to survive after power breakout is back. The status can be shown in NMS when each switch is

Loop protection is also available to prevent the generation of broadcast storm when a dumb switch is inserted in a closed loop connection.

Enhanced G.8032 ring, 16 MSTI MSTP; MRP ring

Lantech IES-5408DFT features enhanced G.8032 ring which can be self-healed in less than 20ms for single ring topology protection covering Multicast packets. It also supports various ring topologies that covers double ring, multi-chain (under enhanced ring), train ring, basic ring multiple-VLAN ring and auto-ring by easy setup than others. The innovative auto-Ring configurator (auto mode) can calculate owner and neighbor in one step. It supports MSTP that allows each spanning tree for each VLAN for redundant links with 16 MSTI.

MRP (Media Redundancy Protocol) can be supported for industrial automation networks.

DHCP option 82 & Port based, Mac based DHCP, Option66, DHCP Snooping, IPv6 DHCP server

DHCP server can assign dedicated IP address by MAC or by port (Port based for single switch), it also can assign IP address by port for multiple switches with single DHCP option82 server. DHCP Snooping is supported. For the ending device which need to download file from TFTP server, DHCP Option66 server can offer IP address of TFTP server to DHCP client. Basic IPv6 DHCP service can be supported.

QoS by VLAN for legacy devices

QoS by VLAN can allow switch to tag QoS by VLAN regardless the devices acknowledge QoS or not in which greatly enhance the bandwidth management in a network.

QinQ, QoS and GVRP supported







It supports the QinQ, QoS and GVRP for large VLAN segmentation.

IGMPv3, GMRP, router port, MLD Snooping, static multicast forwarding and multicast Ring protection

The unique multicast protection under enhanced G.8032 ring can offer immediate self-recovery instead of waiting for IGMP table timeout. It also supports IGMPv3, GMRP, router port, MLD snooping and static multicast forwarding binding by ports for video surveillance application.

802.1X security by MAC address

MAC-based port authentication is an alternative approach to 802.1x for authenticating hosts connected to a port. By authenticating based on the host's source MAC address, the host is not required to run a user for the 802.1x protocol. The RADIUS server that performs the authentication will inform the switch if this MAC can be registered in the MAC address table of switch.

Auto-provisioning for firmware/configuration update

The switch supports auto-provisioning for switch to auto-check the latest software image and configuration through TFTP server.

User friendly GUI, Auto topology drawing

The user friendly UI, innovative auto topology drawing and topology demo makes IES-5408DFT much easier to get handson. The complete CLI enables professional engineer to configure setting by command line.

Editable configuration file; USB port for configuration upload & download

The configuration file of Lantech IES-5408DFT can be exported and edited with word processor for the other switches configuration with ease. The factory reset button can restore the setting back to factory default and built-in watchdog design can automatically reboot the switch when CPU is found dead. The built-in USB port can have configuration upload &

download by USB dongle.

Event log & message; 2 DI / 2 DO

In case of event, the IES-5408DFT is able to send an email to pre-defined addresses as well as SNMP Traps our immediately. It provides 2 DI and 2 DO. When disconnection of the specific port was detected; DO will activate the signal LED to alarm. DI can integrate the sensors for events and DO will trigger the alarm while sending alert information to IP network with email and traps.

Optional environmental monitoring** for switch inside information (-M model)

The environmental monitoring can detect switch overall temperature, voltage and current where can send the SNMP traps, email alert when abnormal.

Wide range dual DC powered input with galvanic isolation; Relay contact alarm, High ESD protection

The Lantech IES-5408DFT is designed with wide range dual power input from 18V~72VDC with galvanic isolation. Featured with relay contact alarm function, the IES-5408DFT is able to connect with alarm system in case of power failure or port disconnection. The IES-5408DFT also provides ±2000V EFT/SURGE and ±4000 VDC (Contact) / ±8000 VDC (Air) Ethernet ESD protection, which can reduce unstable situation caused by power line and Ethernet.

Industrial hardened design for extended temperature operation

Lantech IES-5408DFT features high reliability and robustness coping with extensive EMI/RFI phenomenon, environmental vibration and shocks usually found in factory, substation, steel automation, aviation, mining and process control. It is the best solution for Automation, transportation, surveillance, Wireless backhaul, Semi-conductor factory and assembly lines.

The -E model can be used in extreme environments with an operating temperature range of -40 $^{\circ}$ C to 75 $^{\circ}$ c.

FEATURES & BENEFITS

- 8 10/100TX + 2 10/100/1000T + 2 Dual Speed SFP (Total 12 Ports Switch)
- Back-plane (Switching Fabric): 9.6Gbps
- 16K MAC address table
- DDM to support SFP diagnostic function***
 - Automatically convert the raw data into dB
 values for TX power/RX power, making it easier
 to measure the fiber distance.
- 10KB Jumbo frame
- User friendly UI, auto topology drawing, topology demo, complete CLI for professional setting
- Enhanced G.8032 Ring recovery < 20ms in single ring
 - Support various ring/chain topologies, including train ring, enhanced ring, basic ring, auto ring & multiple VLAN ring
 - Enhanced G.8032 ring configuration with ease
 - Auto ring configuration (auto mode) for single ring

- Covers multi-cast and data packets
- Provides EFT protection ±2000 VDC for power line.
- Supports ±4000 VDC (Contact) and ±8000 VDC (Air)

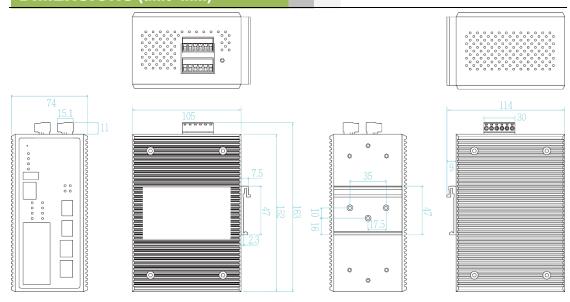
 Ethernet ESD protection
- Built-in RTC (Real Time Clock) to keep track of time
- Supports IEEE 802.1p Class of Service, per port provides 8 priority queues Port base, Tag Base and Type of Service Priority
- IEEE 802.1d STP, IEEE 802.1w RSTP,802.1s MSTP
 VLAN redundancy with 16 MSTI
- 4K 802.1Q VLAN, Port based VLAN, GVRP, VLAN QinQ, QoS
- Supports IEEE 802.1ab LLDP, Cisco CDP; LLDP info can be viewed via Web/ Console
- DHCP server / client / DHCP Option 82 relay / DHCP Option 82; Port based DHCP server; DHCP Snooping; DHCP Option 66; basic IPv6 DHCP server
- Mac based DHCP server to assign IP address



- **Bandwidth Control**
 - Ingress packet filter and egress rate limit
 - Broadcast/multicast packet filter control
- Relay alarm output system events
- Miss-wiring avoidance
 - LED indicator
- Node failure protection
 - Ensure the switches in a ring to survive after power breakout is back
 - The status can be shown in NMS when each switch is back
- TFTP/ HTTP firmware upgrade
- Configuration backup and restoration
 - Supports text configuration file for system quick
 - USB port for upload / download configuration by USB dongle
- System Event Log and SNMP Trap for alarm support; 32 RMON counters
- Security
 - SSL/SSH v2/INGRESS/EGRESS ACL 1 2/L3
 - MAC address table: MAC address entries/Filter/MAC-Port binding
 - IP Security: IP address security management to prevent unauthorized intruder.

- TACACS+**
- Login Security: IEEE802.1X/RADIUS
- HTTPS for secure access to the web interface
- Static multicast forwarding forward reversed IGMP flow with multicast packets binding with ports for IP surveillance application
- IGMP router port to assign query in ring for reversed multicast video flow
- IGMPv1,v2,v3 with Query mode for multimedia;
- Factory reset button to restore setting to factory
- Watchdog design to auto reboot switch CPU is found dead
- MLD Snooping for IPv6 Multicast stream
- Diagnostic including Ping / DDM information
- Supports 2DI / 2DO (2Digital Input/2Digital Output)
- Wide range dual input power from 18V to 56V with galvanic isolation
- Environmental monitoring** for system input voltage, current and ambient temperature (-M
- IP30 metal housing with DIN rail and Wall-mount** design
- Auto Provision to verify switch firmware with the latest or certain version

DIMENSIONS (unit=mm)



SPECIFICATION

Hardware Specification			IEEE802.3ad Link Aggregation Control	
Standards	IEEE802.3 10Base-T Ethernet		Protocol (LACP)	
	IEEE802.3u 100Base-TX		IEEE802.1AB Link Layer Discovery Protocol	
	IEEE802.3ab 1000Base-T Ethernet		(LLDP)	
	IEEE802.3z Gigabit fiber		IEEE802.1X User Authentication (Radius)	
	IEEE802.3x Flow Control and Back Pressure		IEEE802.1p Class of Service	
	IEEE802.3ad Port trunk with LACP		IEEE802.1Q VLAN Tag	
	IEEE802.1d Spanning Tree	Switch Architecture	Back-plane (Switching Fabric): 9.6Gbps	
	IEEE802.1w Rapid Spanning Tree	Transfer Rate	14,880pps for Ethernet port	
	IEEE802.1s Multiple Spanning Tree		148,800pps for Fast Ethernet port	





CE EN61000-4-6, CE EN61000-4-8

BS EN61000-4-2, BS EN61000-4-3,

BS EN61000-4-4. BS EN61000-4-5.

BS EN61000-4-6, BS EN61000-4-8

CE EN 61000-4-11

BS EN55032, BS EN55024,

Ingress/Egress ACL L2/L3

SSL/ SSH v2 for Management

TACACS+** for Authentication

Management access control with priority

Support IGMP snooping v1,v2,v3; 1024

HTTPS for secure access to the web interface



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	multicast groups; IGMP router port ; IGMP query; GMRP**	SNMP Trap	Up to 10 trap stations; trap types including: ■ Device cold start
Static MAC-Port bridge	Static multicast forwarding forward reversed		Authorization failure
	IGMP flow with multicast packets binding with		 Port link up/link down DI/DO open/close
	ports for IP surveillance application		Typology change (ITU ring)
Bandwidth Control	Support ingress packet filter and egress packet		Power failure
Barrawian Control	limit.		● Environmental abnormal**
	The egress rate control supports all of packet	DHCP	Provide DHCP Client/ DHCP Server/DHCP
	type.		Option 82/Port based DHCP; DHCP Option 66;
	Ingress filter packet type combination rules are		DHCP Snooping; basic IPv6 DHCP server
	Broadcast/Multicast/Flooded Unicast packet,	Mac based DHCP	Assign IP address by Mac
	Broadcast/Multicast packet, Broadcast packet	Server	
	only and all types of packet.	Diagnostic	Support Ping and DDM information
	The packet filter rate can be set an accurate value through the pull-down menu for the ingress packet filter and the egress packet	DNS	Provide DNS client feature
		SNTP	Supports SNTP to synchronize system clock in Internet
	limit.	Firmware Update	Supports TFTP firmware update, TFTP backup
Flow Control	Supports Flow Control for Full-duplex and	· · · · · · · · · · · · · · · · · · ·	and restore; HTTP firmware upgrade
	Back Pressure for Half-duplex	Configuration backup	Supports text configuration file for system
System Log	Supports System log record and remote	& restore	quick installation
D. I. III	system log server		USB port for upload/download configuration by
Relay Alarm	Provides one relay output for port breakdown,	Auto Provision	USB dongle To verify switch firmware with the latest or
	power fail and alarm.	Auto Fiovision	certain version
Protection	Alarm Relay current carry ability: 1A @ DC24V Miss-wiring avoidance		*Future release
Protection	Miss-wiring avoidanceNode failure protection		**Optional
	Node failure protection Loop protection		***Optional DDM SFP required
	= Loop protection		•

ORDERING INFORMATION

IES-5408DFT......P/N: 8350-502

 $2\ 10/100/1000T + 2\ 100/1000\ SFP\ +\ 8\ 10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ L2\ + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input;\ -10/100TX\ slot;\ -10/100TX\ slot;\ -10/100TX\ slot;\ -10/100TX\ slot;\ -10/100TX\ slot;\ -$ 20°C to 60°C

IES-5408DFT-E......P/N: 8350-504

 $2\ 10/100/1000T + 2\ 100/1000\ SFP + 8\ 10/100TX\ L2 + Industrial\ Managed\ Ethernet\ Switch\ w/USB\ slot;\ dual\ 18\sim72VDC\ input\ ;\ -10/100/1000T + 2\ 100/1000T + 2\ 1$ 40°C to 75°C

IES-5408DFT-M......P/N: 8350-503

2 10/100/1000T+2 100/1000 SFP + 8 10/100TX L2 +Industrial Managed Ethernet Switch w/USB slot; w/environmental monitoring; dual 18~72VDC input; -20°C to 60°C

IES-5408DFT-M-E......P/N: 8350-505

2 10/100/1000T+2 100/1000 SFP + 8 10/100TX L2 +Industrial Managed Ethernet Switch w/USB slot; w/environmental monitoring; dual 18~72VDC input; -40°C to 75°C

OPTIONAL ACCESSORIES

DIN Rail Power

■ MDR-40 Series 40W Single Output Industrial Din Rail Power; 85-264VAC / 120-370VDC Input Range; Cooling by free air convection; RoHS2;

Operating Temp. -20°C~70°C (ambient, derating each output at 4% per degree from 60° C ~ 70° C)

■ MDR-20 Series 20W Single Output Industrial Din Rail Power; 85-264VAC / 120-370VDC Input Range; Cooling by free air convection; RoHS2;

Operating Temp. -20°C~70°C (ambient, derating each output at 2.5% per degree from $50^{\circ}\text{C} \sim 70^{\circ}\text{C}$)

Mini GBIC (SFP)

■ 8330-162-V1	MINI GBIC 1000SX (LC/MM/0.5KM) Transceiver	■ 8330-196-V1	1.25Gbps BiDi SFP 2KM Transceiver (WDM 1550)
8330-163-V1	MINI GBIC 1000SX2 (LC/MM/2KM) Transceiver	8330-188-V1	1.25Gbps BiDi SFP 10KM Transceiver (WDM 1310)
8330-165-V1	MINI GBIC 1000LX (LC/SM/10KM) Transceiver	8330-189-V1	1.25Gbps BiDi SFP 10KM Transceiver (WDM 1550)
8340-0591-V1	MINI GBIC 1000LHX (LC/SM/40KM) Transceiver	8330-186-V1	1.25Gbps BiDi SFP 20KM Transceiver (WDM 1310)
8330-166-V1	MINI GBIC 1000XD (LC/SM/50KM) Transceiver	8330-187-V1	1.25Gbps BiDi SFP 20KM Transceiver (WDM 1550)
8330-169-V1	MINI GBIC 1000XD (LC/SM/60KM) Transceiver	8330-180-V1	1.25Gbps BiDi SFP 40KM Transceiver (WDM 1310)
8330-167-V1	MINI GBIC 1000ZX (LC/SM/80KM) Transceiver	8330-182-V1	1.25Gbps BiDi SFP 40KM Transceiver (WDM 1550)
8330-170-V1	MINI GBIC 1000EZX (LC/SM/120KM) Transceiver	8330-181-V1	1.25Gbps BiDi SFP 60KM Transceiver (WDM 1310)
8330-168-V1	MINI GBIC 10/100/1000T (100m) Transceiver	8330-183-V1	1.25Gbps BiDi SFP 60KM Transceiver (WDM 1550)
8330-060-V1	MINI GBIC 100Base (LC/MM/2KM) Transceiver	8330-184-V1	1.25Gbps BiDi SFP 80KM Transceiver (WDM 1490)
8330-065-V1	MINI GBIC 100Base (LC/MM/5KM) Transceiver	8330-185-V1	1.25Gbps BiDi SFP 80KM Transceiver (WDM 1550)
8330-061-V1	MINI GBIC 100Base (LC/SM/30KM) Transceiver	8330-071-V1	125Mbps BiDi SFP 2KM (WDM 1310) Transceiver
8330-197-V1	1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1310)	8330-072-V1	125Mbps BiDi SFP 2KM (WDM 1550) Transceiver
8330-198-V1	1.25Gbps BiDi SFP 0.5KM Transceiver (WDM 1550)	8330-069-V1	125Mbps BiDi SFP 20KM (WDM 1310) Transceiver
■ 8330-195-V1	1.25Gbps BiDi SFP 2KM Transceiver (WDM 1310)	■ 8330-068-V1	125Mbps BiDi SFP 20KM (WDM 1550) Transceiver

Datasheet Version 5.1



Industrial Managed Ethernet Switches



8330-080-V1	125Mbps BiDi SFP 40KM (WDM 1310) Transceiver	8330-084-V1	125Mbps BiDi SFP 80KM (WDM 1310) Transceiver
8330-082-V1	125Mbps BiDi SFP 40KM (WDM 1550) Transceiver	8330-085-V1	125Mbps BiDi SFP 80KM (WDM 1550) Transceiver
8330-081-V1	125Mbps BiDi SFP 60KM (WDM 1310) Transceiver	8330-191-V1	Dual Speed SFP 100M/1000M-LX 10KM Transceiver
8330-083-V1	125Mbps BiDi SFP 60KM (WDM 1550) Transceiver	All SFP# ended	with D are with DDM function

Wall Mount Bracket

MBAK19003 Wall mount bracket for 74(W) x 105 (D) x 152 (H) mm / 96 (W) x 105 (D) x 152 (H) mm Industrial Ethernet switches

MBAK19004 19" Rack Mounting Kit for 74x105x152mm/74x135x152mm Industrial Ethernet Switch

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